This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A computerized method for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the method comprising:

   adjusting the position of a control point in an intermediary row in the U direction to provide a smooth transition from the row of control points corresponding to a first edge along the U direction to a row of control points corresponding to a second edge along the U direction while retaining positions of control points in said first and second edges;

   adjusting the position of the control point in an intermediary row in the V direction to provide a smooth transition from the row of control points corresponding to a first edge along the V direction to a row of control points corresponding to a second edge along the V direction while retaining positions of control points in said first and second edges; and

   computing the new position of the control point based on the corresponding adjusted positions of the control point in the intermediary row in the U direction and the control points in the intermediary row in the V direction.

2. (original) The method of claim 1 wherein the plurality of control points define a surface.

3. (original) The method of claim 2 wherein the surface comprises a surface selected from the group consisting of a Béziers surface and a Nurbs surface, wherein the surface is represented in a CAD system.

4. (original) The method of claim 2 wherein the surface comprises a three-dimensional surface.

5. (original) The method of claim 1 wherein computing the new position additionally comprises averaging the adjusted position of the control point in the intermediary row in the U direction and the adjusted position of the control point in the intermediary row in the V direction.

6. (original) The method of claim 1 further comprising:
determining a reference axis for the first edge along the U direction, the second edge along the U direction, the first edge along the V direction, and the second edge along the V direction, wherein the method of determining the reference axis comprises:
for each edge:
determining an X vector comprising a first vector point located at a first extremity of the edge and a second vector point located at a second extremity of the edge;
determining a Z vector comprising the average of two extreme vectors orthogonally adjusted to the X vector, wherein the two extreme vectors comprise a vector formed by an extremity point and its neighbor; and
determining a Y vector comprising the vectorial product of the X vector and the Z vector.

7. (original) The method of claim 6 wherein adjusting the position of a control point in an intermediary row in the U direction comprises adjusting the control point using the reference axis for the first edge along the U direction and the second edge along the U direction; and wherein adjusting the position of a control point in an intermediary row in the V direction further adjusting the control point using the reference axis for the first edge along the V direction and the second edge along the V direction.

8. (currently amended) The method of claim 1 further comprising:
~~identifying a first row in the U direction corresponding to the control point;~~
determining if a row of control points corresponding to a first edge along the U direction ~~and the first row~~ belongs in a first U plane;

determining if a row of control points corresponding to a second edge along the U direction ~~and the first row~~ belongs in a second U plane; and

adjusting the control point using the first U plane and the second U plane, wherein the adjustment only occurs if the row of control points corresponding to the first edge along the U direction belongs in the first U plane and the row of control points corresponding to the second edge along the U direction belongs in the second U plane.

9. (original) The method of claim 8 further comprising:

computing an adjusted U plane for the control point to provide a smooth transition between the first U plane and the second U plane; and

wherein adjusting the control point using the first U plane and the second U plane comprises projecting the control point on the adjusted U plane.

10. (currently amended) The method of claim 8 further comprising:

~~identifying a second row in the V direction corresponding to the control point;~~

determining if a row of control points corresponding to a first edge along the V direction ~~and the second row~~ belongs in a first V plane;

determining if a row of control points corresponding to a second edge along the V direction ~~and the second row~~ belongs in a second V plane; and

adjusting the control point using the first V plane and the second V plane, wherein the adjustment only occurs if the row of control points corresponding to the first edge along the V direction belongs in the first V plane and the row of control points corresponding to the second edge along the V direction belongs in the second V plane.

11. (original) The method of claim 10 further comprising:

computing an adjusted V plane for the control point to provide a smooth transition between the first V plane and the second V plane;

wherein adjusting the control point using the first V plane and the second V plane comprises projecting the control point on the adjusted V plane.

12. (original) The method of claim 10 further comprising:
computing an adjusted U plane for the control point to provide a smooth transition between the first U plane and the second U plane; and
computing an adjusted V plane for the control point to provide a smooth transition between the first V plane and the second V plane.

13. (original) The method of 12 wherein adjusting the control point using the first U plane and the second U plane and adjusting the control point using the first V plane and the second V plane comprises projecting the control point on an intersection of the adjusted U plane and the adjusted V plane.

14. (Cancel)

15. (Cancel)

16. (original) The method of claim 1 further comprising repeating the first adjusting step, second adjusting step, and computing step for each point that is not along the first edge in the U direction, second edge in the U direction, third edge in the V direction, and fourth edge in the V direction.

17. (currently amended) A computerized method for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the method comprising:
~~identifying a first row in the U direction corresponding to a control point;~~

determining if a row of control points corresponding to a first edge along the U direction ~~and the first row~~ belongs in a first U plane;

determining if a row of control points corresponding to a second edge along the U direction ~~and the first row~~ belongs in a second U plane; and

adjusting ~~a~~ control ~~point~~ points using the first U plane and the second U plane, wherein the adjustment only occurs if the row of control points corresponding to the first edge along the U direction belongs in the first U plane and the row of control points corresponding to the second edge along the U direction belongs in the second U plane.

18. (original) The method of claim 17 wherein the plurality of control points define a surface.

19. (original) The method of claim 17 wherein the surface comprises a surface selected from the group consisting of a Béziers surface and a Nurbs surface, wherein the surface is represented in a CAD system.

20. (original) The method of claim 17 wherein the surface comprises a three-dimensional surface.

21. (original) The method of claim 18 further comprising:

computing an adjusted U plane for the control point to provide a smooth transition between the first U plane and the second U plane;

wherein adjusting the control point using the first U plane and the second U plane comprises projecting the control point on the adjusted U plane.

22. (currently amended) The method of claim 18 further comprising:

~~identifying a second row in the V direction corresponding to the control point;~~

determining if a row of control points corresponding to a first edge along the V direction ~~and the second row~~ belongs in a first V plane;

determining if a row of control points corresponding to a second edge along the V direction ~~and the second row~~ belongs in a second V plane; and

adjusting the control point using the first V plane and the second V plane, wherein the adjustment only occurs if the row of control points corresponding to the first edge along the V direction belongs in the first V plane and the row of control points corresponding to the second edge along the V direction belongs in the second V plane.

23. (original) The method of claim 22 further comprising:

computing an adjusted V plane for the control point to provide a smooth transition between the first V plane and the second V plane;

wherein adjusting the control point using the first V plane and the second V plane comprises projecting the control point on the adjusted V plane.

24. (original) The method of claim 22 further comprising:

computing an adjusted U plane for the control point to provide a smooth transition between the first U plane and the second U plane; and

computing an adjusted V plane for the control point to provide a smooth transition between the first V plane and the second V plane.

25. (original) The method of 24 wherein adjusting the control point using the first U plane and the second U plane and adjusting the control point using the first V plane and the second V plane comprises projecting the control point on an intersection of the adjusted U plane and the adjusted V plane.

26. (Cancel)

27. (cancel)

28. (currently amended) A computerized method for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the method comprising:

~~identifying a first row in the U direction corresponding to a control point;~~

determining if a row of control points corresponding to a first edge along the U direction ~~and the first row~~ belongs in a first U plane;

determining if a row of control points corresponding to a second edge along the U direction ~~and the first row~~ belongs in a second U plane; and

constraining the control ~~point~~ points using the first U plane and the second U plane, wherein the constraining only occurs if the row of control points corresponding to a first edge along the U direction belongs in the first U plane and the row of control points corresponding to the second edge along the U direction belongs in the second U plane.

29. (original) The method of claim 28 wherein the network of control points defines a surface.

30. (original) The method of claim 29 wherein the surface comprises a surface selected from the group consisting of a Béziers surface and a Nurbs surface, wherein the surface is represented in a CAD system.

31. (original) The method of claim 28 wherein the surface comprises a three-dimensional surface.

32. (original) The method of claim 28 further comprising:

computing an adjusted U plane for the control point to provide a smooth transition between the first U plane and the second U plane;

wherein constraining the control point using the first U plane and the second U plane comprises constraining the control point on the adjusted U plane.

33. (currently amended) The method of claim 28 further comprising:

~~identifying a second row in the V direction corresponding to the control point;~~

determining if a row of control points corresponding to a first edge along the V direction ~~and the second row~~ belongs in a first V plane;

determining if a row of control points corresponding to a second edge along the V direction ~~and the second row~~ belongs in a second V plane; and

constraining the control point using the first V plane and the second V plane, wherein the constraining only occurs if the row of control points corresponding to a first edge along the V direction belongs in the first V plane and the row of control points corresponding to the second edge along the V direction belongs in the second V plane.

34. (original) The method of claim 33 further comprising:

computing an adjusted V plane for the control point to provide a smooth transition between the first V plane and the second V plane;

wherein adjusting the control point using the first V plane and the second V plane comprises constraining the control point on the adjusted V plane.

35. (original) The method of claim 33 further comprising:

computing an adjusted U plane for the control point to provide a smooth transition between the first U plane and the second U plane; and

computing an adjusted V plane for the control point to provide a smooth transition between the first V plane and the second V plane.

36. (original) The method of 35 wherein constraining the control point using the first U plane and the second U plane and constraining the control point using the first V plane and the second V plane comprises constraining the control point to an intersection of the adjusted U plane and the adjusted V plane.

37. (cancel)

38. (cancel)

39. (currently amended) A computer system for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the system comprising:

a computer, wherein the computer comprises a memory and a processor; and

executable software residing in the computer memory wherein the software is operative with the processor to:

adjust the position of a control point in an intermediary row in the U direction to provide a smooth transition from the row of control points corresponding to a first edge along the U direction to a row of control points corresponding to a second edge along the U direction while retaining positions of control points in said first and second edges;

adjust the position of the control point in an intermediary row in the V direction to provide a smooth transition from the row of control points corresponding to a first edge along the V direction to a row of control points corresponding to a second edge along the V direction while retaining positions of control points in said first and second edges; and

compute the new position of the control point based on the corresponding adjusted positions of the control point in the intermediary row in the U direction and the control points in the intermediary row in the V direction.

40. (currently amended) A computer data signal embodied in a digital data stream for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the signal comprising the steps of:

adjusting the position of a control point in an intermediary row in the U direction to provide a smooth transition from the row of control points corresponding to a first edge along the U direction to a row of control points corresponding to a second edge along the U direction while retaining positions of control points in said first and second edges;

adjusting the position of the control point in an intermediary row in the V direction to provide a smooth transition from the row of control points corresponding to a first edge along the V direction to a row of control points corresponding to a second edge along the V direction while retaining positions of control points in said first and second edges; and

computing the new position of the control point based on the corresponding adjusted positions of the control point in the intermediary row in the U direction and the control points in the intermediary row in the V direction.

41. (currently amended) A computer system for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the system comprising:

a computer, wherein the computer comprises a memory and a processor; and

executable software residing in the computer memory wherein the software is operative with the processor to:

~~identify a first row in the U direction corresponding to a control point;~~

determine if a row of control points corresponding to a first edge along the U direction ~~and the first row~~ belongs in a first U plane;

determine if a row of control points corresponding to a second edge along the U direction ~~and the first row~~ belongs in a second U plane; and

adjust the control point using the first U plane and the second U plane, wherein the adjustment only occurs if the row of control points corresponding to the first edge along the U direction belongs in the first U plane and the row of control points

corresponding to the second edge along the U direction belongs in the second U plane.

42. (currently amended) A computer data signal embodied in a digital data stream for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the signal comprising the steps of:

~~identifying a first row in the U direction corresponding to a control point;~~

determining if a row of control points corresponding to a first edge along the U direction ~~and the first row~~ belongs in a first U plane;

determining if a row of control points corresponding to a second edge along the U direction ~~and the first row~~ belongs in a second U plane; and

adjusting the control point using the first U plane and the second U plane, wherein the adjustment only occurs if the row of control points corresponding to the first edge along the U direction belongs in the first U plane and the row of control points corresponding to the second edge along the U direction belongs in the second U plane.

43. (currently amended) A computer system for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the system comprising:

a computer, wherein the computer comprises a memory and a processor; and

executable software residing in the computer memory wherein the software is operative with the processor to:

~~identify a first row in the U direction corresponding to a control point;~~

determine if a row of control points corresponding to a first edge along the U direction ~~and the first row~~ belongs in a first U plane;

determine if a row of control points corresponding to a second edge along the U direction ~~and the first row~~ belongs in a second U plane; and

constrain the control point using the first U plane and the second U plane, wherein the constraining only occurs if the row of control points corresponding to a first edge along the U direction belongs in the first U plane and the row of control points corresponding to the second edge along the U direction belongs in the second U plane.

44. (currently amended) A computer data signal embodied in a digital data stream for manipulating a plurality of control points, the plurality of control points forming a plurality of rows along two non-parallel directions U and V, the signal comprising the steps of:

~~identifying a first row in the U direction corresponding to a control point;~~

determining if a row of control points corresponding to a first edge along the U direction ~~and the first row~~ belongs in a first U plane;

determining if a row of control points corresponding to a second edge along the U direction ~~and the first row~~ belongs in a second U plane; and

constraining the control point using the first U plane and the second U plane, wherein the constraining only occurs if the row of control points corresponding to a first edge along the U direction belongs in the first U plane and the row of control points corresponding to the second edge along the U direction belongs in the second U plane.